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Effective Transpiration and the Cereal Acreage

In "Meteorology and the Pattern of British Grassland Farming" (Agric. Met 4: 321-38) the counties of England and Wales were arranged in order of magnitude of average effective transpiration and divided into 9 grades, which with a slight re-arrangement become:-

Grade 1	Lancashire, Cornwall, Monmouth, Cheshire, Anglesey, Glamorgan, Caernarvon, Carmarthen and Flint.	Mean E.T = 16.2
Grade 2	Devon, Merioneth, Westmorland, Denbigh, Montgomery, Pembroke, Brecon, Cumberland, Radnor, Shropshire and Somerset.	Mean E.T = 15.8
Grade 3	Stafford, Gloucester, Cardigan, Dorset.	Mean E.T = 15.45
Grade 4	Derby, Hereford, Wiltshire, North Riding.	Mean E.T = 15.05
Grade 5	West Riding, Durham, Northumberland, Worcester, Hampshire.	Mean E.T = 14.8
Grade 6	Sussex, East Riding, Warwick, Leicester, Buckingham, Oxford, Berkshire and Surrey.	Mean E.T = 14.4
Grade 7	Hertford, Rutland, Kent, Norfolk, Northampton, Nottingham and Kesteven.	Mean E.T = 13.9
Grade 8	Lindsey, Bedford, Holland and Suffolk.	Mean E.T = 13.65
Grade 9	Cambridge, Isle of Ely, Huntingdon, Soke of Peterborough and Essex.	Mean E.T = 13.15

The percentages of farmland areas under wheat, barley, oats, total cereals (including mixed corn and rye) orchards grown commercially and tho total of cereals plus orchards in the 1967 returns of MAFF are given in the table overleaf.

The correlation between the total cereal plus orchard percentage and the mean E.T. of the grades is 0.98.

Any comments or suggestions on this paper should be sent to the Author.

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PROPORTION OF LAND GIVEN OVER TO CEREALS AND ORCHARDS

Percentage of Farmland Areas (1967 Returns)

	Mean Effective Transpiration Range	Wheat	Barley	Oats	Total Cereals	Orchards	Total
Grade 1	16.3-16.0	1.7	9.1	1.9	13.9	0	13.9
Grade 2	15.95-15.65	2.3	10.2	2.0	15.0	0.2	15.2
Grade 3	15.55-15.35	6.7	17.4	1.6	26.0	0.2	26.2
Grade 4	15.2-14.95	6.5	22.7	2.3	31.7	0.5	32.2
Grade 5	14.9-14.6	6.8	22.8	2.6	32.1	0.5	32.6
Grade 6	14.5-14.2	12.0	27.6	2.6	42.4	0.3	42.7
Grade 7	14.15-13.8	15.2	30.8	2.2	48.2	2.2	50.4
Grade 8	13.75-13.5	18.2	33.6	2.1	54.0	0.4	54.4
Grade 9	13.3-13.0	24.9	30.4	1.8	57.1	1.3	58.4

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